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# SCIENTIFIC INTELLIGENCE DIGEST

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Nº 511

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NEW NAVAL RESEARCH FACILITY, LENINGRAD,  
APPEARS TO BE WORLD'S LARGEST  
CIRCULATING WATER TUNNEL

[REDACTED]  
Defensive Systems Division  
OSI/CIA

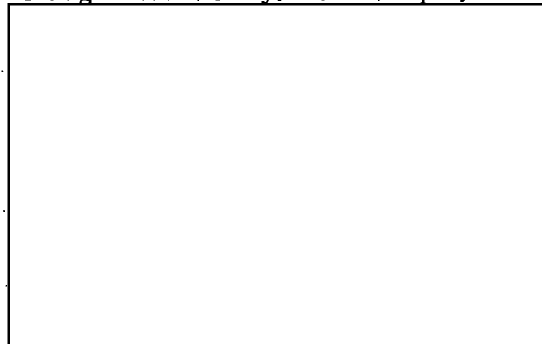
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The Soviets are building a new facility that appears to be the world's largest circulating water facility for research in cavitation, hydroacoustic noise, and the general problem of flow around high speed bodies. The installation is under construction at the Krylov Central Scientific Research Institute of the State Committee for Shipbuilding in Leningrad which is the Soviet center for research in ship and submarine design. When completed, the new facility will be the largest of its kind in the world and will permit research to be conducted on cavitation, noise, and flow phenomena using model sizes which are beyond the capabilities of existing western facilities.

Inasmuch as the principal (and practically the only) use for circulating water tunnels is the development of high speed versions of submarines, torpedoes, ships, and hydrofoil boats, the obviously large expenditure of research funds by the Soviets to construct this facility indicates a determined effort to develop more advanced naval weapons systems. Facilities of this type are essential to the solution of hydrodynamic cavitation and noise problems which arise at high underwater speeds and are particularly useful for designing the propellers (or more ad-

vanced systems involving ducted propellers and jets) for all kinds of high speed naval vehicles.

Several features of the structure under construction in February 1964 (see figure 1) suggest that it is a new circulating water facility. For example, the



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ture by preliminary estimate is about 90 feet wide, 80 feet high, and 350 feet long. These dimensions indicate that it will considerably exceed in size those available for naval hydrodynamics research in the United States and United Kingdom.

A compilation of Soviet data on 35 of the largest Western circulating water

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tunnels was published in 1962 by two members (including the chief) of the Cavitation Department of the Krylov Institute. The authors stated that the compilation was undertaken because these data had not been satisfactorily systematized "as is required for use

in the design of new facilities." In addition, one of the authors presented a paper at the 10th meeting of the International Towing Tank Conference in 1963 in which he made reference to the design of a "new large cavitation tunnel at the Krylov Shipbuilding Research Institute." [redacted]

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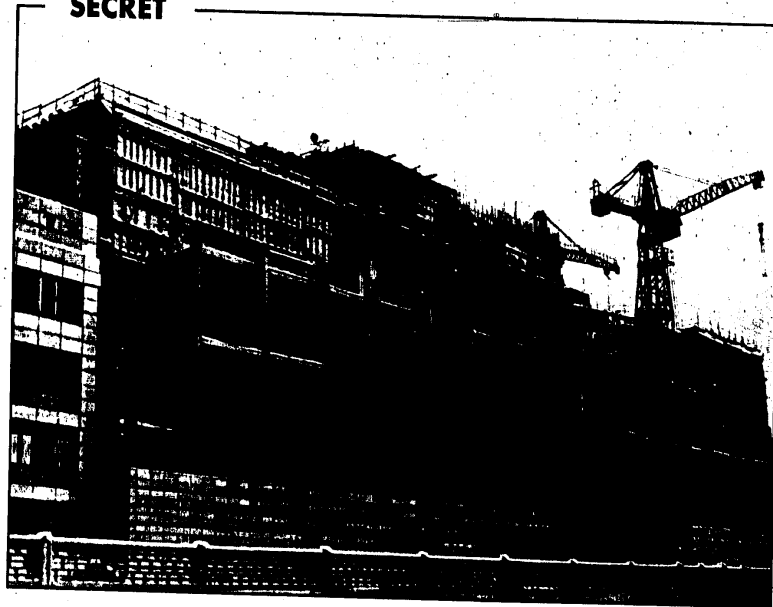
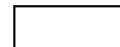


Figure 1. Building under construction at Krylov Institute, Leningrad, February 1964.

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